Previous CFR unit	Current CFR unit
95.1509 ASTM E2213–03 DSRC Standard	95.3189.
95.1511 Frequencies available	95.325, 95.359, 95.3159, 95.3163, 95.3167.

PART 96—CITIZENS BROADBAND RADIO SERVICE

Subpart A—General Rules

Sec.
96.1 Scope.
96.3 Definitions.
96.5 Eligibility.
96.7 Authorization required.
96.9 Regulatory status.
96.11 Frequencies.
96.13 Frequency assignments.

Subpart B—Incumbent Protection

96.15 Protection of federal incumbent users.
96.17 Protection of existing fixed satellite service (FSS) earth stations in the 3600–3700 MHz Band and 3700–4200 MHz Band.and Mexican borders.
96.21 Protection of existing operators in the 3650–3700 MHz Band.

Subpart C—Priority Access

96.23 Authorization.
96.25 [Reserved[
96.27 Application window.
96.29 Competitive bidding procedures.
96.30 Designated entities in the Citizens Broadband Radio Service.
96.31 Aggregation of priority access licenses.
96.32 Priority access assignments of authorization, transfers of control, and leasing arrangements.

Subpart D—General Authorized Access

96.33 Authorization.
96.35 General authorized access use.

Subpart E—Technical Rules

96.39 Citizens Broadband Radio Service Device (CBSD) general requirements.
96.41 General radio requirements.
96.43 Additional requirements for category A CBSDs.
96.45 Additional requirements for category B CBSDs.
96.47 End user device additional requirements.
96.49 Equipment authorization.
96.51 RF safety.

Subpart F—Spectrum Access System

96.53 Spectrum access system purposes and functionality.
96.55 Information gathering and retention.
96.57 Registration, authentication, and authorization of Citizens Broadband Radio Service Devices.
96.59 Frequency assignment.
96.61 Security.
96.63 Spectrum access system administrators.
96.65 Spectrum access system administrator fees.
96.66 Spectrum access system responsibilities related to priority access spectrum manager leases.

Subpart G—Environmental Sensing Capability

96.67 Environmental sensing capability.

AUTHORITY: 47 U.S.C. 154(i), 303, and 307.

SOURCE: 80 FR 36222, June 23, 2015, unless otherwise noted.

Subpart A—General Rules

§ 96.1 Scope.

(a) This section sets forth the regulations governing use of devices in the Citizens Broadband Radio Service. Citizens Broadband Radio Service Devices (CBSDs) may be used in the frequency bands listed in § 96.11. The operation of all CBSDs shall be coordinated by one or more authorized Spectrum Access Systems (SASs).

(b) The Citizens Broadband Radio Service includes Priority Access and General Authorized Access tiers of service. Priority Access Licensees and General Authorized Access Users must not cause harmful interference to Incumbent Users and must accept interference from Incumbent Users. General Authorized Access Users must not cause harmful interference to Priority Access Licensees and must accept interference from Priority Access Licensees.

§ 96.3 Definitions.

The definitions in this section apply to this part.

Adjacent Channel Leakage Ratio. The Adjacent Channel Leakage Ratio (ACLR) is the ratio of the filtered

mean power over the assigned Aggregated Channel Bandwidth to the filtered mean power over the equivalent adjacent channel bandwidth. The power in the assigned Aggregated Channel Bandwidth and its equivalent adjacent channel bandwidth are measured with rectangular filters with measurement bandwidths equal to the Aggregated Channel Bandwidth.

Aggregated Channel Bandwidth. The Aggregated Channel Bandwidth is the bandwidth of a single channel, or in the case of multiple contiguous channels, the bandwidth between the upper and lower limits of the combined contiguous channels.

Citizens Broadband Radio Service Device (CBSD). Fixed Stations, or networks of such stations, that operate on a Priority Access or General Authorized Access basis in the Citizens Broadband Radio Service consistent with this rule part. For CBSDs which comprise multiple nodes or networks of nodes, CBSD requirements apply to each node even if network management and communication with the SAS is accomplished via a single network interface. End User Devices are not considered CBSDs.

(1) *Category A CBSD*. A lower power CBSD that meets the general requirements applicable to all CBSDs and the specific requirements for Category A CBSDs set forth in §§ 96.41 and 96.43.

(2) *Category B CBSD*. A higher power CBSD that meets the general requirements applicable to all CBSDs and the specific requirements for Category B CBSDs set forth in §§ 96.41 and 96.45.

Coastline. The mean low water line along the coast of the United States drawn according to the principles, as recognized by the United States, of the Convention on the Territorial Sea and the Contiguous Zone, 15 U.S.T. 1606, and the 1982 United Nations Convention on the Law of the Sea, 21 I.L.M. 1261.

County. For purposes of this part, counties shall be defined using the United States Census Bureau's data reflecting county legal boundaries and names valid through January 1, 2017.

End user device. A device authorized and controlled by an authorized CBSD. These devices may not be used as intermediate service links or to provide service over the frequencies listed in § 96.11 to other End User Devices or CBSDs.

Environmental Sensing Capability (ESC). A system that detects and communicates the presence of a signal from an Incumbent User to an SAS to facilitate shared spectrum access consistent with §§ 96.15 and 96.67.

Exclusion zone. A geographic area wherein no CBSD shall operate. Exclusion Zones shall be enforced and maintained by the SAS. Exclusion Zones will be converted to Protection Zones following the approval and commercial deployment of an ESC and SAS consistent with this part.

Fixed station. A CBSD or End User Device that transmits and/or receives radio communication signals at a fixed location. Fixed Stations may be moved from time to time but Fixed CBSDs must turn off and re-register with the SAS prior to transmitting from a new location.

Geo-location capability. The capability of a CBSD to register its geographic coordinates within the level of accuracy specified in § 96.39. The CBSD location is used by the SAS to determine frequency availability and maximum transmit power limits for CBSDs.

General Authorized Access (GAA) User. An authorized user of one or more CBSDs operating on a General Authorized Access basis, consistent with subpart D of this part.

Grandfathered wireless broadband licensee. A licensee authorized to operate in the 3650–3700 MHz band consistent with § 90.1338 of this chapter.

Grandfathered wireless protection zone. A geographic area and frequency range in which Grandfathered Wireless Broadband Licensees will receive protection from Citizens Broadband Radio Service transmissions and defined using methodology determined by the Wireless Telecommunications Bureau and Office of Engineering and Technology.

Incumbent user. A federal entity authorized to operate on a primary basis in accordance with the table of frequency allocations, fixed satellite service operator, or Grandfathered Wireless Broadband Licensee authorized to operate on a primary basis on frequencies designated in § 96.11.

License area. The geographic component of a PAL. A License Area consists of one county.

Mobile station. A device intended to be used while in motion or during halts at unspecified points.

PAL Protection Area. The area within the Priority Access Licensee's default protection contour, as calculated by the SAS in accordance with § 96.25 (or smaller, self-reported protection contour). This area will be protected from interference in accordance with §§ 96.25 and 96.41(d).

Portable station. A device designed to be used within 20 centimeters of the body of the user.

Priority Access License (PAL). A license to operate on a Priority Access basis, consistent with subpart C of this part.

Priority access licensee. A holder of one or more PALs. Priority Access Licensees shall be entitled to protection from General Authorized Access Users and other Priority Access Licensees within the defined temporal, geographic, and frequency limits of their PAL, consistent with the rules set forth in this part.

Protection zone. A geographic area wherein CBSDs may operate only with the permission of an approved SAS and ESC.

Rural area. For purposes of this part, any Census Tract which is not located within, or overlapping:

(1) A city, town, or incorporated area that has a population of greater than 20,000 inhabitants; or

(2) An urbanized area contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants.

Service area. One or more contiguous License Areas held by the same Priority Access Licensee.

Spectrum Access System (SAS). A system that authorizes and manages use of spectrum for the Citizens Broadband Radio Service in accordance with subpart F of this part.

Spectrum Access System (SAS) administrator. An entity authorized by the Commission to operate an SAS in accordance with the rules and procedures set forth in § 96.63.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49066, July 26, 2016; 83 FR 63095, Dec. 7, 2018]

§ 96.5 Eligibility.

Any entity, other than those precluded by Section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, and otherwise meets the technical, financial, character, and citizenship qualifications that the Commission may require in accordance with such Act is eligible to be a Priority Access Licensee or General Authorized Access User under this part; provided further, that no entity barred by 47 U.S.C. 1404 is eligible to be a Priority Access Licensee.

§ 96.7 Authorization required.

(a) CBSDs and End User Devices must be used and operated consistent with the rules in this part.

(b) Authorizations for PALs may be granted upon proper application, provided that the applicant is qualified in regard to citizenship, character, financial, technical and other criteria established by the Commission, and that the public interest, convenience and necessity will be served. See 47 U.S.C. 301, 308, 309, and 310. The holding of an authorization does not create any rights beyond the terms, conditions, and period specified in the authorization and shall be subject to the provisions of the Communications Act of 1934, as amended, and the Commission's rules and policies thereunder.

(c) Grandfathered Wireless Broadband Licensees are authorized to operate consistent with § 90.1338 of this chapter.

§ 96.9 Regulatory status.

Priority Access Licensees and General Authorized Access Users are permitted to provide services on a non-common carrier and/or on a common carrier basis. An authorized Citizens Broadband Radio Service user may render any kind of communications service consistent with the regulatory status in its authorization and with the Commission's rules applicable to that service.

§ 96.11 Frequencies.

(a) The Citizens Broadband Radio Service is authorized in the 3550–3700 MHz frequency band.

(1) General Authorized Access Users may operate in the 3550–3700 MHz frequency band.

(2) Priority Access Users may operate in the 3550–3650 MHz frequency band.

(3) Grandfathered Wireless Broadband Licensees may continue to use the 3650–3700 MHz band in accordance with § 90.1338 of this chapter.

(b) [Reserved]

§ 96.13 Frequency assignments.

(a) Each PAL shall be authorized to use a 10 megahertz channel in the 3550–3650 MHz band.

(1) No more than seven PALs shall be assigned in any given License Area at any given time.

(2) Multiple channels held by the same Priority Access Licensee in a given License Area shall be assigned consistent with the requirements of § 96.25.

(3) Any frequencies designated for Priority Access that are not in use by a Priority Access Licensee may be utilized by General Authorized Access Users.

(b) The 3650–3700 MHz band shall be reserved for Grandfathered Wireless Broadband Licensees and GAA Users.

(c) An SAS shall assign authorized CBSDs to specific frequencies, which may be reassigned by that SAS, consistent with this part.

Subpart B—Incumbent Protection

§ 96.15 Protection of federal incumbent users.

(a) This paragraph (a) applies only to CBSDs operating in the 3550–3650 MHz band.

(1) CBSDs and End User Devices must not cause harmful interference to and must accept interference from federal Incumbent Users authorized to operate in the 3550–3700 MHz band and below 3550 MHz.

(2) The SAS shall only authorize the use of CBSDs consistent with information on federal frequency use obtained from an approved ESC, except as provided in this section.

(3) For Category A CBSDs, Exclusion Zones shall be maintained along the Coastline, as shown at *ntia.doc.gov/category/3550-3650-mhz*. Exclusion Zones shall also be maintained around federal radiolocation sites as set forth at *ntia.doc.gov/category/3550-3650-mhz* . NTIA shall notify the Commission in writing if and when the list of protected federal radiolocation sites is updated. Exclusion Zones shall be maintained and enforced until one or more ESCs are approved and used by at least one SAS, in accordance with § 96.67. Thereafter, Exclusion Zones shall be converted to Protection Zones.

(i) Category A CBSDs may be authorized by an approved SAS in geographic areas outside of Exclusion Zones before an ESC is approved.

(ii) Once an ESC is approved and used by at least one SAS, Category A CBSDs may only be authorized consistent with information on federal frequency use provided to the SAS by an approved ESC.

(iii) Category B CBSDs may only be authorized consistent with information on the presence of a signal from a federal system provided to the SAS by an approved ESC.

(4) Within 300 seconds after the ESC communicates that it has detected a signal from a federal system in a given area, or the SAS is otherwise notified of current federal incumbent use of the band, the SAS must either confirm suspension of the CBSD's operation or its relocation to another unoccupied frequency, if available. If the President of the United States (or another designated Federal Government entity) issues instructions to discontinue use of CBSDs pursuant to 47 U.S.C. 606, SAS Administrators must instruct CBSDs to cease operations as soon as technically possible.

(5) The Commission will, as necessary, add or modify Exclusion Zones or Protection Zones to protect current and future federal Incumbent Users.

(6) The Commission may temporarily extend or modify Exclusion Zones and Protection Zones to protect temporary operations by federal Incumbent Users. Federal Incumbent Users will coordinate with the Commission prior to the beginning of any non-emergency operation requiring additional protection.

Such modifications will be communicated to the SAS along with the expiration date and time of any modification.

(b) This paragraph (b) applies to CBSDs operating in the 3650–3700 MHz band.

(1) CBSDs and End User Devices must not cause harmful interference to and must accept interference from federal Incumbent Users authorized to operate in the 3500–3700 MHz band.

(2) Exclusion Zones shall be maintained for an 80 km radius around the federal radiolocation sites listed in 47 CFR 90.1331 and 47 CFR 2.106, US 109. These Exclusion Zones shall be maintained and enforced until one or more ESCs are approved and used by at least one SAS, in accordance with § 96.67. Thereafter, Exclusion Zones shall be converted to Protection Zones.

(3) CBSDs may only be authorized within these Protection Zones consistent with information on the presence of a signal from a federal system provided to the SAS by an approved ESC, in accordance with § 96.67.

(4) Within 300 seconds after the ESC communicates that it has detected a signal from a federal system in a given area, or the SAS is otherwise notified of current federal incumbent use of the band, the SAS must either confirm suspension of the CBSD's operation or its relocation to another unoccupied frequency. If the President of the United States (or another designated Federal Government entity) issues instructions to discontinue use of CBSDs pursuant to 47 U.S.C. 606, SAS Administrators must instruct CBSDs to cease operations as soon as technically possible.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49066, July 26, 2016]

§ 96.17 Protection of existing fixed satellite service (FSS) earth stations in the 3600–3700 MHz Band and 3700–4200 MHz Band.

(a) FSS earth stations licensed to operate in the 3600–3700 MHz band listed at *www.fcc.gov/cbrs-protected-fss-sites* shall be protected from CBSD operation consistent with this section. The protections in this section shall only apply to registered FSS earth stations that are authorized to operate on a co-primary basis consistent with § 2.106 of this chapter.

(1) FSS earth stations in the 3650–3700 MHz band will be afforded protection consistent with this section only after the conditions set forth in § 96.21(c) are satisfied.

(2) *Co-channel.* The aggregate passband radiofrequency (RF) power spectral density at the output of a reference RF filter and antenna at the location of an FSS earth station operating in the 3600–3700 MHz band, produced by emissions from all co-channel CBSDs (within 150 km) operating in the Citizens Band Radio Service shall not exceed a median root mean square (RMS) value of −129 dBm/MHz. The reference antenna system requires SAS to calculate antenna gain using § 25.209(a)(1) and (4) of this chapter, and a reference RF filter between the feedhorn and low noise amplifier (LNA)/low noise block downconverter (LNB), with 0.5 dB insertion loss in the passband.

(3) *Blocking.* The aggregate RF power at the output of a reference RF filter and antenna at the location of an FSS earth station operating in the 3600–3700 MHz band, produced by emissions from all CBSDs (within 40 km), shall not exceed a median RMS value of −60 dBm. The reference antenna system requires an SAS to calculate antenna gain using § 25.209(a)(1) and (4) of this chapter, and a reference RF filter between the feedhorn and LNA/LNB, with a filter mask of 0.6 dB/MHz attenuation to 30.5 dB at 50 MHz offset below the lower edge of the FSS earth station's authorized passband, and 0.25 dB/MHz attenuation to 55.5 dB at an offset greater than or equal to 150 MHz below the lower edge of the FSS earth station's authorized passband.

(b) Registered FSS earth stations in the 3700–4200 MHz band listed at *www.fcc.gov/cbrs-protected-fss-sites* shall be protected from CBSD operation in accordance with this section. Only licensed FSS earth stations used for satellite telemetry, tracking, and control (TT&C) operations will be protected under this section. Other licensed 3700–4200 MHz earth stations may be protected consistent with § 96.17(f).

(1) *Out-of-band emissions into FSS.* The aggregate passband RF power spectral density at the output of a reference RF

filter and antenna at the location of a TT&C FSS earth station operating in the 3700–4200 MHz band, produced by emissions from all CBSDs (within 40 km) operating in the Citizens Band Radio Service shall not exceed a median RMS value of −129 dBm/MHz. The reference antenna system requires SAS to calculate antenna gain using §25.209(a)(1) and (4) of this chapter, and a reference RF filter between the feed-horn and LNA/LNB, with 0.5 dB insertion loss in the passband.

(2) *Blocking*. The aggregate RF power at the output of a reference RF filter and antenna at the location of a TT&C FSS earth station operating in the 3700–4200 MHz band, produced by emissions from all CBSDs (within 40 km), shall not exceed a median RMS value of −60 dBm. The reference antenna system requires SAS to calculate antenna gain using §25.209(a)(1) and (4) of this chapter, and a reference RF filter between the feed-horn and LNA/LNB, with a filter mask of 0.6 dB/MHz attenuation to 30.5 dB at 50 MHz offset below the lower edge of the FSS earth station's authorized passband, and 0.25 dB/MHz attenuation to 55.5 dB at an offset greater than or equal to150 MHz below the lower edge of the FSS earth station's authorized passband.

(c) These protection criteria will be enforced by the Spectrum Access System authorized consistent with subpart F of this part.

(d) FSS earth station licensees requesting protection under this part must register with the Commission annually, no later than 30 days before the end of the preceding calendar year, or upon making changes to any of the operational parameters listed in this section. Registration information will be made available to all approved SASs.

(1) Annual registration for each earth station shall include, at a minimum:

(i) The earth station's geographic location (Using NAD83 coordinates);

(ii) Antenna gain;

(iii) Azimuth and elevation antenna gain pattern;

(iv) Antenna azimuth relative to true north; and

(v) Antenna elevation angle.

(vi) Whether the earth station is used for satellite telemetry, tracking, and control (for earth stations in the 3700–4200 MHz band).

(2) Such information must be made available to SAS Administrators and maintained consistent with §96.55.

(e) CBSDs may operate within areas that may cause interference to FSS earth stations, in excess of the levels described in §96.17(a) and (b), provided that the licensee of the FSS earth station and the authorized user of the CBSD mutually agree on such operation and the terms of any such agreement are provided to an SAS Administrator that agrees to enforce them. The terms of any such agreement shall be communicated promptly to all other SAS Administrators.

(f) FSS earth station licensees in the 3600–3700 and 3700–4200 MHz bands may request additional protection from SAS Administrators to prevent harmful interference into their systems. SAS Administrators must establish a process to receive and address such requests, consistent with §§96.53(o) and 96.63 and shall make good faith efforts to address interference concerns, consistent with their other responsibilities under this part. In addressing such requests, SASs shall assume that 3700–4200 MHz earth stations are utilizing filters with the characteristics described in §96.17(a)(3) or (b)(2) as appropriate for the 3600–3700 or 3700–4200 MHz band.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49066, July 26, 2016]

§96.19 Operation near Canadian and Mexican borders.

Citizens Broadband Radio Service operation in the 3550–3700 MHz band is subject to current and future international agreements with Mexico and Canada. The terms of these agreements shall be implemented by the SAS.

§96.21 Protection of existing operators in the 3650–3700 MHz Band.

(a) Grandfathered Wireless Broadband Licensees shall be granted Incumbent User status consistent with §§90.1307 and 90.1338 of this chapter. Notwithstanding this status, Grandfathered Wireless Broadband Licensees shall not cause harmful interference to federal Incumbent Users and grandfathered FSS earth stations consistent with the rules governing Citizens

Broadband Radio Service operators in this part.

(1) Incumbent User protections for a Grandfathered Wireless Broadband Licensee shall only apply within its Grandfathered Wireless Protection Zone.

(2) Incumbent User protections for a Grandfathered Wireless Broadband Licensee shall only apply to Grandfathered Wireless Protection Zones around base or fixed stations that are registered in ULS on or before April 17, 2015 and constructed, in service, and fully compliant with the rules in part 90, subpart Z of this chapter as of April 17, 2016. Grandfathered Wireless Protection Zones will be reduced in geographic area and/or applicable frequency range if portions of the protected network fail to meet the above criteria after April 17, 2016. Grandfathered Wireless Protection Zones will not be defined for subscriber units operated by Grandfathered Wireless Broadband Licensees, regardless of whether they have been registered in ULS.

(3) Grandfathered Wireless Protection Zones must be registered in the SAS for these protections to apply.

(b) Grandfathered Wireless Broadband Licensees may operate within their Grandfathered Wireless Protection Zones and operational frequencies consistent with the technical rules in part 90, subpart Z, consistent with the transition period set forth in §§ 90.1307 and 90.1338 of this chapter.

(c) Grandfathered Wireless Broadband Licensees and Citizens Broadband Radio Service users must protect authorized grandfathered FSS earth stations in the 3650–3700 MHz band, consistent with the existing protection criteria in 47 CFR part 90, subpart Z, until the last Grandfathered Wireless Broadband Licensee's license expires within the protection area defined for a particular grandfathered FSS earth station. Thereafter, the protection criteria in § 96.17 applicable to FSS earth stations in the 3600–3700 MHz band shall apply.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49067, July 26, 2016]

Subpart C—Priority Access

§ 96.23 Authorization.

(a) An applicant must file an application for an initial PAL. Applications for PALs must:

(1) Demonstrate the applicant's qualifications to hold an authorization;

(2) State how a grant would serve the public interest, convenience, and necessity;

(3) Contain all information required by FCC rules and application forms;

(4) Propose operation of a facility or facilities in compliance with all rules governing the Citizens Broadband Radio Service; and

(5) Be amended as necessary to remain substantially accurate and complete in all significant respects, in accordance with the provisions of § 1.65 of this chapter.

(b) CBSDs used for Priority Access must register with an SAS and comply with its instructions consistent with § 96.39 and subpart F of this part.

(c) Records pertaining to PALs, including applications and licenses, shall be maintained by the Commission in a publicly accessible system.

[80 FR 36222, June 23, 2015, as amended at 83 FR 63095, Dec. 7, 2018; 85 FR 25315, May 1, 2020]

§ 96.25 Priority access licenses.

(a) Priority Access Licensees must operate CBSDs consistent with the technical rules and interference protection requirements set forth in this part.

(b) PALs have the following parameters:

(1) *Geography:* Each PAL consists of a single License Area.

(i) *Contiguous geographic areas:* An SAS must assign geographically contiguous PALs held by the same Priority Access Licensee to the same channels in each geographic area, to the extent feasible. The SAS may temporarily reassign individual PALs held by the same Priority Access Licensee to different channels, so that geographical contiguity is temporarily not maintained, to the extent necessary to protect Incumbent Users or if necessary to perform its required functions under subpart F of this part.

(ii) [Reserved]

(2) *Channels:* Each PAL consists of a 10 megahertz channel within the frequency range set forth in §96.11. Channels must be assigned by the SAS. Priority Access Licensees may request a particular channel or frequency range from the SAS but will not be guaranteed a particular assignment.

(i) *Contiguous channels:* An SAS must assign multiple channels held by the same Priority Access Licensee to contiguous channels in the same License Area, to the extent feasible. The SAS may temporarily reassign individual PALs to non-contiguous channels to the extent necessary to protect Incumbent Users or if necessary to perform its required functions under subpart F of this part.

(ii) [Reserved]

(3) *License term.* Each PAL has a ten-year license term. Licensees must file a renewal application in accordance with the provisions of §1.949 of this chapter.

(4) *Performance requirement.* Priority Access Licensees must provide substantial service in their license area by the end of the initial license term. ''Substantial'' service is defined as service which is sound, favorable, and substantially above the level of mediocre service which might minimally warrant renewal. Failure by any licensee to meet this requirement will result in forfeiture of the license without further Commission action, and the licensee will be ineligible to regain it. Licensees shall demonstrate compliance with the performance requirement by filing a construction notification with the Commission in accordance with the provisions set forth in §1.946(d) of this chapter. The licensee must certify whether it has met the performance requirement, and file supporting documentation, including description and demonstration of the bona fide service provided, electronic maps accurately depicting the boundaries of the license area and where in the license area the licensee provides service that meets the performance requirement, supporting technical documentation, any population-related assumptions or data used in determining the population covered by a service to the extent any were relied upon, and any other information the Wireless Telecommunications Bureau may prescribe by public notice. A licensee's showing of substantial service may not rely on service coverage outside of the PAL Protection Areas of registered CBSDs or on deployments that are not reflected in SAS records of CBSD registrations.

(i) *Safe harbor for mobile or point-to-multipoint service.* A Priority Access Licensee providing a mobile service or point-to-multipoint service may demonstrate substantial service by showing that it provides signal coverage and offers service, either to customers or for internal use, over at least 50 percent of the population in the license area.

(ii) *Safe harbor for fixed point-to-point service.* A Priority Access Licensee providing a fixed point-to-point service may demonstrate substantial service by showing that it has constructed and operates at least four links, either to customers or for internal use, in license areas with 134,000 population or less and in license areas with greater population, a minimum number of links equal to the population of the license area divided by 33,500 and rounded up to the nearest whole number. To satisfy this provision, such links must operate using registered Category B CBSDs.

(c) *PAL Protection Areas.* PAL channels shall be made available for assignment by the SAS for General Authorized Access use only in areas outside of PAL Protection Areas consistent with this section and §96.41(d).

(1) A CBSD will be considered to be in use for purposes of calculating a PAL Protection Area once it is registered and authorized for use on a Priority Access basis by an SAS consistent with §§96.39, 96.53, and 96.57.

(i) Priority Access Licensees must inform the SAS if a previously activated CBSD is no longer in use.

(ii) Any CBSD that does not make contact with the SAS for seven days shall not be considered in use and will be excluded from the calculation of the PAL Protection Area until such time as contact with the SAS is re-established.

(2) The default protection contour will be determined by the SAS as a −96 dBm/10 MHz contour around each CBSD. The default protection contour

will be calculated based on information included in the CBSD registration and shall be determined and enforced consistently across all SASs.

(i) The default protection contour is the outer limit of the PAL Protection Area for any CBSD but a Priority Access Licensee may choose to self-report protection contours smaller than the default protection contour to the SAS.

(ii) If the PAL Protection Areas for multiple CBSDs operated by the same Priority Access Licensees overlap, the SAS shall combine the PAL Protection Areas for such CBSDs into a single protection area.

(3) The PAL Protection Area may not extend beyond the boundaries of the Priority Access Licensee's Service Area.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49067, July 26, 2016; 83 FR 63096, Dec. 7, 2018; 85 FR 25315, May 1, 2020]]

§ 96.27 [Reserved]

§ 96.29 Competitive bidding procedures.

Mutually exclusive initial applications for PALs are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q, of this chapter will apply unless otherwise provided in this subpart.

[83 FR 63096, Dec. 7, 2018]

§ 96.30 Designated entities in the Citizens Broadband Radio Service.

(a) *Small business.* (1) A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding $55 million for the preceding three (3) years.

(2) A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding $20 million for the preceding three (3) years.

(b) *Eligible rural service provider.* For purposes of this section, an eligible rural service provider is an entity that meets the criteria specified in §1.2110(f)(4) of this chapter.

(c) *Bidding credits.* (1) A winning bidder that qualifies as a small business as defined in this section or a consortium of small businesses may use a bidding credit of 15 percent, as specified in §1.2110(f)(2)(i)(C) of this chapter. A winning bidder that qualifies as a very small business as defined in this section or a consortium of very small businesses may use a bidding credit of 25 percent, as specified in §1.2110(f)(2)(i)(B) of this chapter.

(2) An entity that qualifies as eligible rural service provider or a consortium of rural service providers who has not claimed a small business bidding credit may use a bidding credit of 15 percent, as specified in §1.2110(f)(4) of this chapter.

[83 FR 63096, Dec. 7, 2018]

§ 96.31 Aggregation of priority access licenses.

(a) Priority Access Licensees may aggregate up to four PAL channels in any License Area at any given time.

(b) The criteria in §20.22(b) of this chapter will apply in order to attribute partial ownership and other interests for the purpose of applying the aggregation limit in paragraph (a) of this section.

[81 FR 49067, July 26, 2016]

§ 96.32 Priority access assignments of authorization, transfers of control, and leasing arrangements.

(a) Priority Access Licensees may transfer or assign their licenses and enter into de facto leasing arrangements in accordance with part 1 of this chapter.

(b) Priority Access Licensees may partition or disaggregate their licenses and partially assign or transfer their licenses pursuant to §1.950 of this chapter and may enter into de facto transfer leasing arrangements for a portion of their licensed spectrum pursuant to part 1 of this chapter.

(c) Priority Access Licensees may enter into spectrum manager leasing arrangements with approved entities as prescribed in §1.9046 of this chapter. Priority Access Licensees may only enter into leasing arrangements for areas that are within their Service

Area and outside of their PAL Protection Areas.

[81 FR 49068, July 26, 2016, as amended at 83 FR 63096, Dec. 7, 2018; 85 FR 25315, May 1, 2020]]

Subpart D—General Authorized Access

§ 96.33 Authorization.

(a) Any party meeting the requirements set forth in § 96.5 is eligible to operate a CBSD on a General Authorized Access basis.

(b) CBSDs used for General Authorized Access must register with the SAS and comply with its instructions.

§ 96.35 General authorized access use.

(a) General Authorized Access Users shall be permitted to use frequencies assigned to PALs when such frequencies are not in use, as determined by the SAS, consistent with § 96.25(c).

(b) Frequencies that are available for General Authorized Access Use shall be made available on a shared basis.

(c) General Authorized Access Users shall have no expectation of interference protection from other General Authorized Access Users operating in accordance with this part.

(d) General Authorized Access Users must not cause harmful interference to and must accept interference from Priority Access Licensees and Incumbent Users in accordance with this part.

(e) General Authorized Access Users operating Category B CBSDs must make every effort to cooperate in the selection and use of available frequencies provided by an SAS to minimize the potential for interference and make the most effective use of the authorized facilities. Such users shall coordinate with an SAS before seeking station authorization, and make every effort to ensure that their CBSDs operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference among CBSDs. Operators of CBSDs suffering from or causing harmful interference are expected to cooperate and resolve interference problems through technological solutions or by other mutually satisfactory arrangements.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49068, July 26, 2016]

Subpart E—Technical Rules

§ 96.39 Citizens Broadband Radio Service Device (CBSD) general requirements.

This section applies to all CBSDs. Additional rules applicable only to Category A or Category B CBSDs are set forth in §§ 96.43 and 96.45.

(a) *Geo-location and reporting capability*. (1) All CBSDs must be able to determine their geographic coordinates (referenced to the North American Datum of 1983 (NAD83)) to an accuracy of ±50 meters horizontal and ±3 meters of elevation. Such geographic coordinates shall be reported to an SAS at the time of first activation from a power-off condition.

(2) For professionally installed CBSDs, geographic coordinates to the same accuracy specified in paragraph (a)(1) of this section may be determined and reported to the SAS as part of the installation and registration process. Geographic coordinates must be determined and reported each time the CBSD is moved to a new location.

(3) A non-professionally installed CBSD must check its location and report to the SAS any location changes exceeding 50 meters horizontal and ±3 meters elevation from its last reported location within 60 seconds of such location change.

(b) *Operability*. All CBSDs must be capable of two-way operation on any authorized frequency assigned by an SAS. Equipment deployed by Grandfathered Wireless Broadband Licensees during their license term will be exempt from this requirement.

(c) *Registration with SAS*. A CBSD must register with and be authorized by an SAS prior to its initial service transmission. The CBSD must provide the SAS upon its registration with its geographic location, antenna height above ground level (in meters), CBSD class (Category A/Category B), requested authorization status (Priority Access or General Authorized Access), FCC identification number, call sign, user contact information, air interface

technology, unique manufacturer's serial number, sensing capabilities (if supported), and additional information on its deployment profile required by §§ 96.43 and 96.45. If any of this information changes, the CBSD shall update the SAS within 60 seconds of such change, except as otherwise set forth in this section. All information provided by the CBSD to the SAS must be true, complete, correct, and made in good faith.

(1) A CBSD must operate at or below the maximum power level authorized by an SAS, consistent with its FCC equipment authorization, and within geographic areas permitted by an SAS on the channels or frequencies authorized by an SAS.

(2) A CBSD must receive and comply with any incoming commands from its associated SAS about any changes to power limits and frequency assignments. A CBSD must cease transmission, move to another frequency range, or change its power level within 60 seconds as instructed by an SAS.

(d) *Signal Level Reporting.* A CBSD must report to an SAS regarding received signal strength in its occupied frequencies and adjacent frequencies, received packet error rates or other common standard metrics of interference for itself and associated End User Devices as directed by an SAS.

(e) *Frequency reporting.* If directed by the SAS, a CBSD that receives a range of available frequencies or channels from an SAS must promptly report to the SAS which of the available channels or frequencies it will utilize.

(f) *Security.* CBSDs shall incorporate security measures sufficient to ensure that they are capable of communicating only with SASs operated by approved SAS Administrators, and that communications between CBSDs and SASs, between individual CBSDs, and between CBSDs and End User Devices are secure to prevent corruption or unauthorized interception of data.

(1) For purposes of obtaining operational limits and frequency availabilities and their updates, CBSDs shall only contact SASs operated by SAS Administrators approved by the Commission in accordance with subpart F of this part.

(2) All communications between CBSDs and SASs must be transmitted using secure methods that protect the systems from corruption or unauthorized modification of the data.

(3) Communications between a CBSD and its associated End User Devices for purposes of obtaining operational power, location, and frequency assignments shall employ secure methods that protect the system from corruption or unauthorized modification of the data.

(g) *Device security.* All CBSDs and End User Devices must contain security features sufficient to protect against modification of software and firmware by unauthorized parties. Applications for certification of CBSDs and End User Devices must include an operational description of the technologies and measures that are incorporated in the device to comply with the security requirements of this section. In addition, applications for certification of CBSDs and End User Devices must identify at least one of the SAS databases operated by an approved SAS Administrator that the device will access for channel/frequency availability and affirm that the device will conform to the communications security methods used by such databases.

(h) *Airborne operations.* Airborne operations by CBSDs and End User Devices are prohibited.

§ 96.41 General radio requirements.

The requirements in this section apply to CBSDs and their associated End User Devices, unless otherwise specified.

(a) *Digital modulation.* Systems operating in the Citizens Broadband Radio Service must use digital modulation techniques.

(b) *Power limits.* Unless otherwise specified in this section, the maximum effective isotropic radiated power (EIRP) and maximum Power Spectral Density (PSD) of any CBSD and End User Device must comply with the limits shown in the table in this paragraph (b):

Device	Maximum EIRP (dBm/10 megahertz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a

Device	Maximum EIRP (dBm/10 megahertz)	Maximum PSD (dBm/MHz)
Category A CBSD	30	20
Category B CBSD [1]	47	37

[1] Category B CBSDs will only be authorized for use after an ESC is approved and commercially deployed consistent with §§ 96.15 and 96.67.

(c) *Power management.* CBSDs and End User Devices shall limit their operating power to the minimum necessary for successful operations.

(1) CBSDs must support transmit power control capability and the capability to limit their maximum EIRP and the maximum EIRP of associated End User Devices in response to instructions from an SAS.

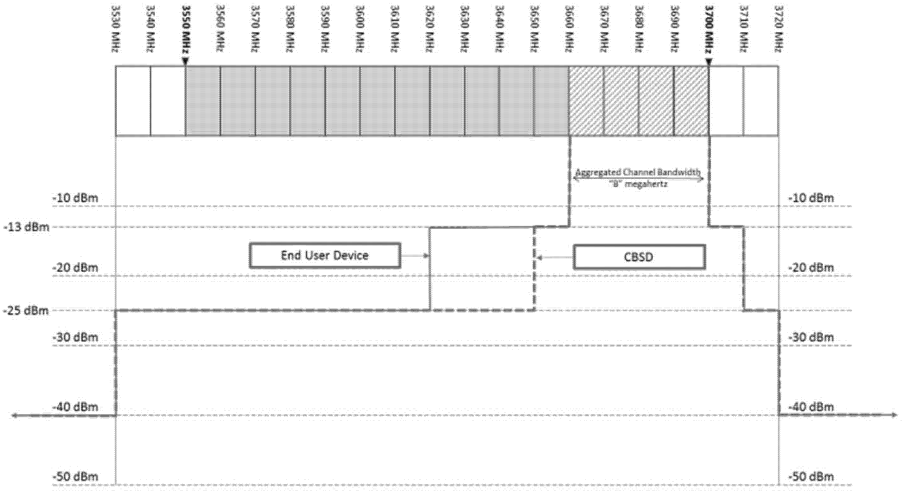
(2) End User Devices shall include transmit power control capability and the capability to limit their maximum EIRP in response to instructions from their associated CBSDs.

(d) *Received Signal Strength Limits.* (1) For both Priority Access and GAA users, CBSD transmissions must be managed such that the aggregate received signal strength for all locations within the PAL Protection Area of any co-channel PAL, shall not exceed an average (RMS) power level of −80 dBm in any direction when integrated over a 10 megahertz reference bandwidth, with the measurement antenna placed at a height of 1.5 meters above ground level, unless the affected PAL licensees agree to an alternative limit and communicate that to the SAS.

(2) These limits shall not apply for co-channel operations at the boundary between geographically adjacent PALs held by the same Priority Access Licensee.

(e) *3.5 GHz Emissions and Interference Limits*—(1) *General protection levels.*

Figure 1 to paragraph (e) – Protection levels



(i) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed −13 dBm/MHz within 0–10 megahertz above the upper SAS-assigned channel edge and within 0–10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the

conducted power of any CBSD emission shall not exceed −25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels.

(ii) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by a CBSD to End User Devices, the conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed −13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed −25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

(2) *Additional protection levels.* Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

(3) *Measurement procedure.* (i) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's authorized frequency channel, a resolution bandwidth of no less than one percent of the fundamental emission bandwidth may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full reference bandwidth (*i.e.,* 1 MHz or 1 percent of emission bandwidth, as specified). The fundamental emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(ii) When measuring unwanted emissions to demonstrate compliance with the limits, the CBSD and End User Device nominal carrier frequency/channel shall be adjusted as close to the licensee's authorized frequency block edges, both upper and lower, as the design permits.

(iii) Compliance with emission limits shall be demonstrated using either average (RMS)-detected or peak-detected power measurement techniques.

(4) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

(f) *Reception limits.* Priority Access Licensees must accept adjacent channel and in-band blocking interference (emissions from other authorized Priority Access or GAA CBSDs transmitting between 3550 and 3700 MHz) up to a power spectral density level not to exceed −40 dBm in any direction with greater than 99% probability when integrated over a 10 megahertz reference bandwidth, with the measurement antenna placed at a height of 1.5 meters above ground level, unless the affected Priority Access Licensees agree to an alternative limit and communicates that to the SAS.

NOTE TO PARAGRAPH (f): Citizens Broadband Radio Service users should be aware that there are Federal Government radar systems in the band and adjacent bands that could adversely affect their operations.

(g) *Power measurement.* The peak-to-average power ratio (PAPR) of any CBSD transmitter output power must not exceed 13 dB. PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities or another Commission approved procedure. The measurement must be performed using a signal corresponding

to the highest PAPR expected during periods of continuous transmission.

[81 FR 49068, July 26, 2016, as amended at 83 FR 63096, Dec. 7, 2018]

§ 96.43 Additional requirements for category A CBSDs.

(a) Category A CBSDs shall not be deployed or operated outdoors with antennas exceeding 6 meters height above average terrain. CBSDs deployed or operated outdoors with antennas exceeding 6 meters height above average terrain will be classified as, and subject to, the operational requirements of Category B CBSDs.

(b) When registering with an SAS, Category A CBSDs must transmit all information required under § 96.39. This transmission shall also indicate whether the device will be operated indoors or outdoors.

(c) Any CBSD operated at higher power than specified for Category A CBSDs in § 96.41 will be classified as, and subject to, the operational requirements of a Category B CBSD.

§ 96.45 Additional requirements for category B CBSDs.

(a) Category B CBSDs must be professionally installed.

(b) In the 3550–3650 MHz band, Category B CBSDs must be authorized consistent with information received from an ESC, as described in § 96.15.

(c) Category B CBSDs are limited to outdoor operations.

(d) When registering with an SAS, Category B CBSDs must transmit all information required under § 96.39 plus the following additional information: antenna gain, beamwidth, azimuth, downtilt angle, and antenna height above ground level.

§ 96.47 End user device additional requirements.

(a) End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

(1) An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

(2) [Reserved]

(b) Any device operated at higher power than specified for End User Devices in § 96.41 will be classified as, and subject to, the operational requirements of a CBSD.

§ 96.49 Equipment authorization.

(a) Each transmitter used for operation under this part and each transmitter marketed as set forth in § 2.803 of this chapter must be of a type which has been certificated for use under this part.

(b) Any manufacturer of radio transmitting equipment to be used in these services must request equipment authorization following the procedures set forth in subpart J of part 2 of this chapter.

§ 96.51 RF safety.

Licensees and manufacturers are subject to the radio frequency radiation exposure requirements specified in §§ 1.1307(b), 1.1310, 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of Mobile or Portable devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions and technical information showing the basis for this statement must be submitted to the Commission upon request.

Subpart F—Spectrum Access System

§ 96.53 Spectrum access system purposes and functionality.

The purposes of the SAS include:

(a) To enact and enforce all policies and procedures developed by the SAS Administrator pursuant to § 96.63.

(b) To determine and provide to CBSDs the permissible channels or frequencies at their location.

(c) To determine and provide to CBSDs the maximum permissible transmission power level at their location.

(d) To register and authenticate the identification information and location of CBSDs.

(e) To retain information on, and enforce, Exclusion Zones and Protection Zones in accordance with §§ 96.15 and 96.17.

(f) To communicate with the ESC to obtain information about federal Incumbent User transmissions and instruct CBSDs to move to another frequency range or cease transmissions.

(g) To ensure that CBSDs operate in geographic areas and within the maximum power levels required to protect federal Incumbent Users from harmful interference, consistent with the requirements of §§ 96.15 and 96.21.

(h) To ensure that CBSDs protect non-federal Incumbent Users from harmful interference, consistent with the requirements of §§ 96.17 and 96.21.

(i) To protect Priority Access Licensees from interference caused by other PALs and from General Authorized Access Users, including the calculation and enforcement of PAL Protection Areas, consistent with § 96.25.

(j) To facilitate coordination between GAA users operating Category B CBSDs, consistent with § 96.35.

(k) To resolve conflicting uses of the band while maintaining, as much as possible, a stable radio frequency environment.

(l) To ensure secure and reliable transmission of information between the SAS and CBSDs.

(m) To protect Grandfathered Wireless Broadband Licensees consistent with §§ 90.1307 and 90.1338 of this chapter, and § 96.21.

(n) To implement the terms of current and future international agreements as they relate to the Citizens Broadband Radio Service.

(o) To receive reports of interference and requests for additional protection from Incumbent Access users and promptly address interference issues.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49069, July 26, 2016]

§ 96.55 Information gathering and retention.

(a) The SAS shall maintain current information on registered CBSDs, the geographic locations and configuration of protected FSS locations as set forth in § 96.17, and the federal Incumbent User Exclusion Zones and Protection Zones.

(1) For registered CBSDs, such information shall include all information required by §§ 96.39 and 96.45.

(2) SAS Administrators must make all information necessary to effectively coordinate operations between and among CBSDs available to other SAS Administrators.

(3) Upon request, SAS Administrators must make available to the general public aggregated spectrum usage data for any geographic area. Such information must include the total available spectrum and the maximum available contiguous spectrum in the requested area. SAS Administrators shall not disclose specific CBSD registration information to the general public except where such disclosure is authorized by the registrant.

(4) For non-federal Incumbent Users, the SAS shall maintain a record of the location of protected earth stations as well as the all registration information required by § 96.17.

(b) The SAS shall maintain records not pertaining to federal Incumbent User transmissions for at least 60 months.

(c) The SAS shall only retain records of information or instructions received regarding federal Incumbent User transmissions from the ESC in accordance with information retention policies established as part of the ESC approval process.

(d) The SAS shall be technically capable of directly interfacing with any necessary FCC database containing information required for the proper operation of an SAS.

(e) The SAS shall process and retain acknowledgements by all entities registering CBSDs that they understand the risk of possible interference from federal Incumbent User radar operations in the band.

[80 FR 36222, June 23, 2015, as amended at 83 FR 63097, Dec. 7, 2018]

§ 96.57 Registration, authentication, and authorization of Citizens Broadband Radio Service Devices.

(a) An SAS must register, authenticate, and authorize operations of CBSDs consistent with this part.

(b) CBSDs composed of a network of base and fixed stations may employ a

subsystem for aggregating and communicating all required information exchanges between the SAS and CBSDs.

(c) An SAS must also verify that the FCC identifier (FCC ID) of any CBSD seeking access to its services is valid prior to authorizing it to begin providing service. A list of devices with valid FCC IDs and the FCC IDs of those devices is to be obtained from the Commission's Equipment Authorization System.

(d) An SAS must not authorize operation of CBSDs within Protection Zones except as set forth in § 96.15.

(e) An SAS must calculate and enforce PAL Protection Areas consistent with § 96.25 and such calculation and enforcement shall be consistent across all SASs.

[80 FR 36222, June 23, 2015, as amended at 81 FR 49069, July 26, 2016]

§ 96.59 Frequency assignment.

(a) An SAS must determine the available and appropriate channels/frequencies for CBSDs at any given location using the information supplied by CBSDs, including location, the authorization status and operating parameters of other CBSDs in the surrounding area, information communicated by the ESC, other SASs, and such other information necessary to ensure effective operations of CBSDs consistent with this part. All such determinations and assignments shall be made in a non-discriminatory manner, consistent with this part.

(1) Upon request from the Commission or a CBSD, an SAS must confirm whether frequencies are available in a given geographic area.

(2) Upon request from the Commission, an SAS must confirm that CBSDs in a given geographic area and frequency band have been shut down or moved to another available frequency range in response to information received from the ESC.

(3) If an SAS provides a range of available frequencies or channels to a CBSD, it may require that CBSD to confirm which channel or range of frequencies it will utilize.

(b) Consistent with the requirements of § 96.25, an SAS shall assign geographically contiguous PALs held by the same Priority Access Licensee to the same channels in each geographic area, where feasible. The SAS shall also assign multiple channels held by the same Priority Access Licensee to contiguous frequencies within the same License Area, where feasible.

(c) An SAS may temporarily assign PALs to different channels (within the frequency range authorized for Priority Access use) to protect Incumbent Access Users or if necessary to perform its required functions.

§ 96.61 Security.

(a) An SAS must employ protocols and procedures to ensure that all communications and interactions between the SAS and CBSDs are accurate and secure and that unauthorized parties cannot access or alter the SAS or the information it sends to a CBSD.

(b) Communications between CBSDs and an SAS, between an ESC and an SAS, between individual CBSDs, and between different SASs, must be secure to prevent corruption or unauthorized interception of data. An SAS must be protected from unauthorized data input or alteration of stored data.

(c) An SAS must verify that the FCC identification number supplied by a CBSD is for a certified device and must not provide service to an uncertified device.

§ 96.63 Spectrum access system administrators.

The Commission will designate one or more SAS Administrators to provide nationwide service. The Commission may, at its discretion, permit the functions of an SAS, such as a data repository, registration, and query services, to be divided among multiple entities; however, it shall designate one or more specific entities to be an SAS Administrator responsible for coordinating the overall functioning of an SAS and providing services to operators in the Citizens Broadband Radio Service. Each SAS Administrator designated by the Commission must:

(a) Maintain a regularly updated database that contains the information described in § 96.55.

(b) Establish a process for acquiring and storing in the database necessary and appropriate information from the Commission's databases, including

PAL assignments, and synchronizing the database with the current Commission databases at least once a day to include newly licensed facilities or any changes to licensed facilities.

(c) Establish and follow protocols and procedures to ensure compliance with the rules set forth in this part, including the SAS functions set forth in subpart F of this part.

(d) Establish and follow protocols and procedures sufficient to ensure that all communications and interactions between the SAS, ESC, and CBSDs are accurate and secure and that unauthorized parties cannot access or alter the SAS or the information transmitted from the SAS to CBSDs.

(e) Provide service for a five-year term. This term may be renewed at the Commission's discretion.

(f) Respond in a timely manner to verify, correct or remove, as appropriate, data in the event that the Commission or a party brings a claim of inaccuracies in the SAS to its attention. This requirement applies only to information that the Commission requires to be stored in the SAS.

(g) Securely transfer the information in the SAS, along with the IP addresses and URLs used to access the system, and a list of registered CBSDs, to another approved entity in the event it does not continue as the SAS Administrator at the end of its term. It may charge a reasonable price for such conveyance.

(h) Cooperate to develop a standardized process for coordinating operations with other SASs, avoiding any conflicting assignments, maximizing shared use of available frequencies, ensuring continuity of service to all registered CBSDs, and providing the data collected pursuant to § 96.55.

(i) Coordinate with other SAS Administrators including, to the extent possible, sharing information, facilitating non-interfering use by CBSDs connected to other SASs, maximizing available General Authorized Access frequencies by assigning PALs to similar channels in the same geographic regions, and other functions necessary to ensure that available spectrum is used efficiently consistent with this part.

(j) Provide a means to make non-federal non-proprietary information available to the public in a reasonably accessible fashion in conformity with the rules in this part.

(k) Ensure that the SAS shall be available at all times to immediately respond to requests from authorized Commission personnel for any and all information stored or retained by the SAS.

(l) Establish and follow protocols to respond to instructions from the President of the United States, or another designated Federal government entity, issued pursuant to 47 U.S.C. 606.

(m) Establish and follow protocols to comply with enforcement instructions from the Commission.

(n) Ensure that the SAS:

(1) Operates without any connectivity to any military or other sensitive federal database or system, except as otherwise required by this part; and

(2) Does not store, retain, transmit, or disclose operational information on the movement or position of any federal system or any information that reveals other operational information of any federal system that is not required by this part to effectively operate the SAS.

§ 96.65 Spectrum access system administrator fees.

(a) An SAS Administrator may charge Citizens Broadband Radio Service users a reasonable fee for provision of the services set forth in subpart F of this part.

(b) The Commission, upon request, will review the fees and can require changes to those fees if they are found to be unreasonable.

§ 96.66 Spectrum access system responsibilities related to priority access spectrum manager leases.

(a) An SAS Administrator that chooses to accept and support leasing notifications shall:

(1) Verify that the lessee is on the certification list, as established in § 1.9046 of this chapter.

(2) Establish a process for acquiring and storing the lease notification information and synchronizing this information, including information about the expiration, extension, or termination of leasing arrangements, with

the Commission databases at least once a day;

(3) Verify that the lease will not result in the lessee holding more than the 40 megahertz of Priority Access spectrum in a given License Area;

(4) Verify that the area to be leased is within the Priority Access Licensee's Service Area and outside of the Priority Access Licensee's PAL Protection Area; and

(5) Provide confirmation to licensee and lessee whether the notification has been received and verified.

(b) During the period of the lease and within the geographic area of a lease, SASs shall treat any CBSD operated by the lessee the same as a similarly situated CBSDs operated by the lessor for frequency assignment and interference mitigation purposes.

[81 FR 49069, July 26, 2016]

Subpart G—Environmental Sensing Capability

§ 96.67 Environmental sensing capability.

(a) The primary purpose of the ESC is to facilitate coexistence of Citizens Broadband Radio Service users with federal Incumbent Users through signal sensing. An ESC will be operated by a non-governmental entity and, except as set forth in this section, will not rely on governmental agencies to affirmatively communicate information about the operations of incumbent radio systems.

(b) An ESC may only operate after receiving approval by the Commission. Such approval shall be conditioned on meeting the requirements of this part and any other requirements imposed by the Commission. The Commission may revoke, modify, or condition ESC approval at its discretion.

(c) An ESC must meet the following requirements:

(1) Be managed and maintained by a non-governmental entity;

(2) Accurately detect the presence of a signal from a federal system in the 3550–3700 MHz band and adjacent frequencies using approved methodologies that ensure that any CBSDs operating pursuant to ESC will not cause harmful interference to federal Incumbent Users;

(3) Communicate information about the presence of a signal from a federal Incumbent User system to one or more approved SASs;

(4) Maintain security of detected and communicated signal information;

(5) Comply with all Commission rules and guidelines governing the construction, operation, and approval of ESCs;

(6) Ensure that the ESC shall be available at all times to immediately respond to requests from authorized Commission personnel for any information collected or communicated by the ESC; and

(7) Ensure that the ESC operates without any connectivity to any military or other sensitive federal database or system and does not store, retain, transmit, or disclose operational information on the movement or position of any federal system or any information that reveals other operational information of any federal system that is not required by this part to effectively operate the ESC.

(d) ESC equipment may be deployed in the vicinity of the Exclusion Zones and Protection Zones to accurately detect federal Incumbent User transmissions.

PART 97—AMATEUR RADIO SERVICE

Subpart A—General Provisions

Sec.